

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027856**Date Inspected:** 27-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernie Docena and Jesse Cayabya			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	SAS Tower	

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Electro Slag Welding (ESW) 'R' face B (S-043), QA randomly observed ABF/JV qualified welder Jin Pei Wang perform CJP groove welding repair/restoration at Y=1210mm with excavation dimensions of 150mm long X 37mm wide x 37 mm deep and at Y=1690mm with excavation dimensions of 370mm long X 58mm wide X 42mm deep. These two excavations were made as demonstration to Caltrans personnel the transverse indications that were detected from Ultrasonic Testing (UT). There was no approved Request for Welding Repair (RWR) prior to the excavation and restoration welding but according to our Task Leader Bill Levell, he had a conversation with ASMR Aaron Prchlik and that the RWR is still being finalized by ABF and it should be forthcoming. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The repair excavation was preheated to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets placed at the other side of the joint being welded. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 124 amperes during welding. At the end of the shift, the welding restoration/repair of weld joint mentioned above was completed on Y=1210mm but still continuing on Y=1690mm. The welder held the same preheat of 350°F on both repairs for three hours after welding as required.

Location Weld No. Y-dim. Length Width Depth Remarks

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

- | | | | | | | |
|----|-----------|--------|-------|------|------|-------------|
| 1. | 'R' E-041 | 1210mm | 150mm | 37mm | 30mm | Completed. |
| 2. | 'R' E-041 | 1690mm | 370mm | 58mm | 42mm | In progress |

At Tower Base Electro Slag Weld (ESW) location 'T' face A (S-043), QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform CJP groove welding repair. The welder was observed manually welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair Rev. 2. The repair excavation was preheated and continuously maintained to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded is located at ESW 'T' face A, Y=3980mm having dimensions of 140mm long X 45mm wide X 50mm deep has been approved per Request for Welding Repair (RWR) #201206-057. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 126 amperes. During the shift, 3G SMAW repair welding at location mentioned above was completed and the welder has moved to same ESW location but at Y=4130mm. This repair has an approved RWR #201206-052. The welder has used the same process and implemented the same procedure mentioned above. The welder performed the vertical repair welding until the end of the shift but was able to complete the second repair. The welder held the same preheat of 350°F on both repairs for three hours after welding as required.

Location	Weld No.	Y-dim.	Length	Width	Depth	Remarks
3.	'T' S-043	3980mm	140mm	45mm	50mm	Completed.
4.	'T' S-043	4130mm	195mm	50mm	50mm	In progress

At Tower Base Electro Slag Weld (ESW) location 'V' face A (W-043), QA randomly observed ABF/JV qualified welder Xiao Jian Wan continuing to perform CJP groove welding repair. The welder was observed manually welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair Rev. 2. The repair excavation was preheated and continuously maintained to more than 350 degree Fahrenheit using Miller Proheat 35 Induction Heating System prior/during welding. The ESW repair being welded is located at ESW 'V' face A, Y=1190mm having dimensions of 135mm long X 58mm wide X 37mm deep has been approved per Request for Welding Repair (RWR) #201206-043. During the shift, ABF QC Bernie Docena was noted monitoring the welder with measured working current of 126 amperes. During the shift, 3G SMAW repair welding at location mentioned above was completed. The welder held the same preheat of 350°F on both repairs for three hours after welding as required.

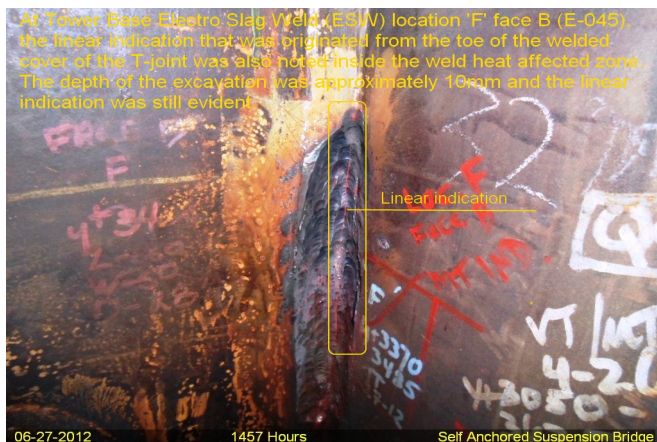
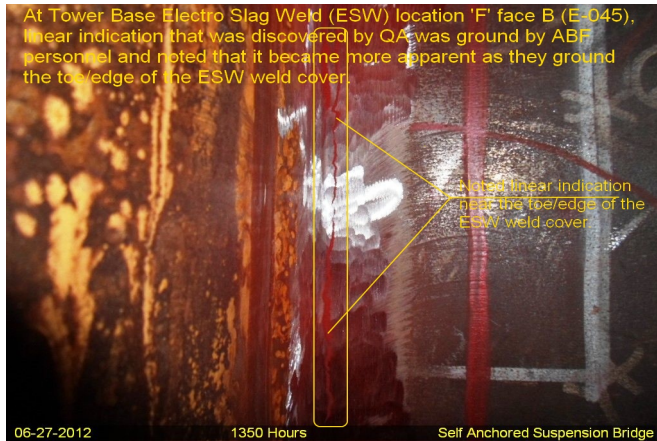
Location	Weld No.	Y-dim.	Length	Width	Depth	Remarks
1.	'T' S-043	3980mm	140mm	45mm	50mm	Completed.

At Tower Base Electro Slag Weld (ESW) location 'F' face B (E-045), ABF personnel started grinding the linear indications near the toe of the weld cover that were discovered by QA. The linear indications were located at Y=4600mm to Y=4950mm for a length of 350mm and at Y=3370mm upwards (approximate length of 150mm) and still growing as they gouged according to ABF foreman James Zhen who performed the excavation using carbon air arc gouging. Initially, the welding foreman started using the die grinder but when the indication looks continuous he switched to carbon air arc gouging. The welder stopped the excavation for sometime and ABF QC Jesse Cayabyab and this QA checked the extent of the excavation. During the inspection, it was noted that the

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

indication was still leading upwards (linear indication already approximately 150mm long) and the depth was already at around 10mm. At this time, ABF QC Jesse Cayabyab instructed the welding foreman to stop the excavation and wait for RWR prior to continue. ABF Superintendent Dan Ieraci also came to the site and said the same to the foreman. The excavation of the two linear indications is now pending awaiting approval from Caltrans. According to ABF QC Jesse Cayabyab, ABF is still preparing the RWR for the excavation and its subsequent repair.



Summary of Conversations:

Per our conversation with Task Leader Bill Levell today, he told this QA that he was informed by ASMR Aaron Prchlik and that the RWR for the excavation/restoration of ESW 'R' is still being finalized and it should be forthcoming.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer